

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 02940350TA	FOR FURTHER ACTION		see Form PCT/ISA/220 as well as, where applicable, item 5 below
International application No. PCT/US05/11544	International filing date (day/month/year) 07 April 2005 (07.04.2005)	(Earliest) Priority Date (day/month/year) 08 April 2004 (08.04.2004)	
Applicant VIRGINIA COMMONWEALTH UNIVERSITY			

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

I. Basis of the Report

a. With regard to the **language**, the international search was carried out on the basis of:



the international application in the language in which it was filed.



a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐

With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐

Certain claims were found unsearchable (See Box No. II)

3. ☐

Unity of invention is lacking (See Box No. III)

4. ☐

With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

Please See Continuation Sheet

5. ☐

With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. ☐

With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 3



as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.



as selected by this Authority, because this figure better characterizes the invention.

b. ☐

none of the figures is to be published with the abstract.

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Box IV TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

NEW ABSTRACT

Motion artifacts and patient dose during 4D CT imaging are reduced by adaptive control of data acquisition. The respiration signal (310) and CT data acquisition (340) are linked, such that "bad" data from erratic breathing cycles that cause artifacts is not acquired by pausing CT data acquisition (360) when erratic breathing is detected, and not resuming CT data acquisition until steady-state respiration is resumed. Training data is used to develop a tolerance envelope for a respiratory signal such that for erratic breathing cycles the respiratory signal is not within the tolerance envelope (330).

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61B 6/03

US CL : 600/425, 428

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 600/425, 428

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 2004/0081270 A1 (HEUSCHER) 29 April 2004 (29.04.2004), entire document.	1-15
Y	US 2004/0034300 A1 (VERARD et al) 19 February 2004 (19.02.2004), entire document.	1-15

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

22 January 2006 (22.01.2006)

Date of mailing of the international search report

13 FEB 2006

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US

Commissioner for Patents

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Continuation of Item 4 of the first sheet:

The title exceeds the maximum length allowable under PCT Rule 4.3. The new title shall read:

Four dimensional computed tomography adaptive control method and system for reducing motion artifacts and patient dose.